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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,188	07/12/2001	Frank Werfel	87333.1900	1224
30734	7590	03/01/2004		
BAKER + HOSTETLER LLP WASHINGTON SQUARE, SUITE 1100 1050 CONNECTICUT AVE. N.W. WASHINGTON, DC 20036-5304			EXAMINER AGUIRRECHEA, JAYDI A	
			ART UNIT 2834	PAPER NUMBER

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,188

Applicant(s)

WERFEL ET AL.

Examiner

Jaydi A. Aguirrechea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

2. Claim 19 is objected to because of the following informalities: it is not clear if the permanent magnet has a ring/cylinder shape, or if the permanent magnet configuration has a ring/cylindrical configuration. For examination purposes, the Examiner assumes that the permanent magnet has a ring/cylindrical shape. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 recites the limitation "the rotor cup" in line 13. There is insufficient antecedent basis for this limitation in the claim. The limitation should read "the rotor assembly".

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 2-9, 11-20, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canders et al. (DE19727550A1).

With regards to claims 23 and 26, Canders discloses a first super-conducting magnetic bearing (11) comprising: a first permanent magnet configuration (11b) coupled with the rotor assembly so as to rotate concurrently with the rotor assembly (12); and a passive first super-conducting magnetic stator (11a) being spaced apart from the first permanent magnetic configuration and the rotor assembly (Figure 1), the first super-conducting magnet stator and first permanent magnet configuration being sufficiently close together to produce a magnetic field interaction there between; and a motor coupled with the rotor assembly for selectively rotating the rotor assembly, wherein the first permanent magnet configuration comprises an integrated lower part of the rotor assembly.

Canders does not disclose, explicitly, the magnetic bearing to be used in a centrifuge. However, Canders do disclose the magnetic bearing of a rotor/stator structure to be connected to a turbine shaft; which usually drives the centrifuges.

7. With regards to claim 2, the magnet field lines of the first permanent magnet configuration penetrate approximately perpendicular into at least one surface of the first super-conducting magnet stator.

8. With regards to claim 3, the position of rotor axis includes an angle from 0 to 90 degrees relative to a horizontal plane (Figure 1)

9. With regards to claim 4, the first permanent magnet configuration comprises at least one permanent magnet ring or a permanent magnet cylinder, the first super-conducting magnet stator being at least partially disposed in radial alignment with the first permanent magnet configuration.

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10. With regards to claim 5 and 6, the first super-conducting magnet stator at least partially surrounds the first permanent magnet configuration.

11. With regards to claim 7, the rotor assembly comprises a rotor mounted on a drive shaft; and the first permanent magnet configuration comprises a plurality of discrete permanent magnets, each permanent magnet being disposed at a discrete location along the length of the drive shaft, the first super-conducting magnet stator encircling the drive shaft.

12. With regards to claim 8, the rotor assembly has a substantially cylindrical housing and the permanent magnets are disposed on the inside face of the cylindrical housing.

13. With regards to claim 9, the pole shoes 5 are made of a high permeable material disposed between each of the permanent magnets.

14. With regards to claims 11 and 12, the stator is connected to a cryogenic unit 9.

15. With regards to claims 13, 18 and 24, the stator has a cylindrical/ring configuration.

16. With regards to claims 14 and 15, Canders discloses the claimed invention except for the super-conducting magnet material. Canders is silent with respect to the material, but it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

17. With regards to claim 16, Canders discloses the rings 5 made of a high permeable material.

18. With regards to claim 17, Canders discloses in figure 9 a second super-conducting magnet stator.

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19. With regards to claim 19, the permanent magnets having ring shapes are mounted coaxially about the rotor axis.

20. With regards to claim 20, Figure 4 shows the permanent magnets with adjacent equal polarities.

21. With regards to claim 25, Canders discloses the limitations in figures 5, 6, 9 and 10.

Allowable Subject Matter

22. Claims 10, 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The references of the Prior Art of Record fail to teach or suggest either alone or in obvious combination the limitations as set forth in claim 1, and specifically comprising the limitation of the permanent magnets being concentrically one in another.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 571-272-2018. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Burton S. Mullins can be reached on 571-272-2029. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAA
2/6/04


BURTON S. MULLINS
PRIMARY EXAMINER